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## Examining Trends in Adolescents' Future Orientation Across 33 Years

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EXAMINING TRENDS IN  
ADOLESCENTS' FUTURE ORIENTATION  
ACROSS 33 YEARS

BY  
INDRAWATI LIAUW

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE  
REQUIREMENTS FOR THE DEGREE OF  
MASTER OF SCIENCE  
IN  
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MASTER OF SCIENCE THESIS  
OF  
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2013

## **ABSTRACT**

The purpose of this study was to examine the future orientation of adolescents from 1977 to 2010. This study looked at the trends over the 33-year period in: (1) the amount of worry high school seniors have about national problems; (2) the value they place on planning for the future; and (3) their material aspirations for the future.

Drawing from the life course theory that social and historical contexts influence the decisions and roles that individuals undertake, it was hypothesized that the future orientation of high school seniors would vary with the socio-historical influences such as global and/or national events taking place during that point in time.

The study used a subsample ( $n = 96,165$ ) of the total nationwide sample of high school seniors from 1977 to 2010 from the annual Monitoring the Future (MtF) study administered by the University of Michigan and sponsored by the National Institute on Drug Abuse. It was hypothesized that: (1) the lower the level of worry adolescents have toward their social contexts in the future, the more confidence they have on planning for the future, and (2) the lower the level of worry adolescents have toward their social contexts in the future, the more material aspirations they desire for the future. The study found that while there were variations in the level of worry high school seniors had from 1977 to 2010 that corresponded to significant national events, there was relatively little variation in the value these adolescents place on planning as well as the material aspirations they hold. The correlations among the three measures were also small.

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## **DEDICATION**

This thesis is dedicated to my parents, my siblings and Thupten Tendhar for being such great supporters and cheerleaders through my entire graduate student experience away from home. I am truly grateful for their unconditional love, support and encouragement and hope I will be able to make them proud.

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## CHAPTER 1

### INTRODUCTION

It is natural for humans to think about and act upon the future. We think about what is likely to happen and have our personal beliefs and goals for the future. We employ efforts toward achieving our goals (Nurmi, 2005). The salience of adolescents' future goals, and the importance of translating these goals into positive behaviors that optimize the developmental trajectory of youth toward productive adulthood, justifies investigation into the developmental processes through which adolescents' expectations for their futures are realized (Schmid, Phelps & Lerner, 2011).

Sociologists Alwin and McCammon (2003) emphasized the significance of cohort and generational studies with the argument that "how people think about the social world around them may depend as much on what was happening in the world at the time they were growing up as it does on what is happening in the present" (p. 23). Wray-Lake, Flanagan and Osgood (2010) also argued that changes in adolescents' attitudes are important markers and act as barometers of long-term social change. This is because adolescents are particularly impressionable as they are open to social forces and socialization influences. The values and worldviews that young people form during this time are likely to inform their behaviors and attitudes throughout life. Drawing from this theoretical reasoning, trends in how young people think and feel about the future are not only key indicators of historical shifts in the U.S., but can also be glimpses into what could be likely to happen in the future. From a macro

perspective, American society has undergone significant changes during the past decades. For instance, adolescents in the United States now have a longer period of required education and training compared to a few decades ago. There are also fewer job opportunities for those without a high school education and an increasing demand for more advanced interpersonal and technical skills in the work place (Newman & Newman, 2012). There are few studies, however, that look at the impact of socio-historical changes on adolescents' thoughts and feelings about the future across time.

A few studies point to generational differences in aspects of adolescent development. Wray-Lake, Flanagan and Osgood (2010) were concerned with environmental stewardship and argued that changes in adolescents' attitudes are important markers of long-term social change. They looked at adolescents' concerns for the environment from 1976 to 2005, and found that the cohorts of the early 1990s were most concerned; more recent cohorts grew less concerned. It is interesting to note that across all years, the results show that adolescents assign responsibility for the environment to the government and consumers rather than take personal responsibility on their own part.

In a separate study, Wray-Lake, Syvertsen, Briddell, Osgood, and Flanagan (2011) argued that it is important to know trends in adolescents' work values because shifts in adolescents' work values may indicate important widespread social and/or economic changes. They looked at the meaning of work to 12<sup>th</sup> graders from 1976 to 2005. While adolescents across all three decades valued work, the recent cohorts valued the importance of work, job security, and the intrinsic rewards for work to a lesser extent. The value of work that allows leisure time showed a steady increase over

the decades. There are also differences in work values by gender, race, parents' education and college aspirations.

Syvertsen, Wray-Lake, Flanagan, Osgood and Briddell (2011) were interested in youth's involvement in civil participation over time. They examined the overall trends and patterns in youths' current and future civic participation and beliefs from 1976 to 2005 and found that regardless of time periods, the majority of youth expressed little trust in the government and elected officials but still intended to vote when eligible. Across the 30 years, there was a decline in youth's involvement in civic engagement, but greater involvement in community service. Youth who planned to graduate from a 4-year college were more civically inclined than their peers with two-year or no college plans. Twenge, Campbell and Freeman (2012) found that among adolescents from 1976 to 2008, the more recent cohorts considered goals that are related to extrinsic values - such as money, fame and image - to be more important. Goals related to intrinsic values such as community, affiliation and self-acceptance were less important. Civic orientation, helping the environment, and concern for others declined even though community service rose over the same period. The authors posited that the results support the "Generation Me" view of generational differences compared to the "Generation We" mentality of earlier cohorts.

Using a life course perspective, the question of whether societal changes have had a role in shaping the future orientation of younger generations was explored in this study. Have there been shifts in adolescents' thoughts and feelings about their future, specifically with respect to national stability, their plans for the future, and their aspirations to attain material well-being? Do young people in recent cohorts differ

from their age-mates of 33 years ago in their sense of hope or worry that the plans they are making for their future can be realized?

## CHAPTER 2

### REVIEW OF LITERATURE

This study examined the trends in youth's future orientation over 33 years, and sought to place youth's future aspirations in the context of life course theory. In this literature review, the period of adolescence will first be discussed to provide the social and developmental context of the subjects of interest in this study. Following that, the key tenets of the life course theory and the theory of future orientation will be discussed, as they provide the theoretical underpinnings of this study. Life course theory explains the influence of socio-historical contexts and their timing in an individual's life, while the theory of future orientation provides insights on the processes and influences on people's thoughts and actions for the future.

#### *Adolescence*

According to Newman and Newman (2012), the stage of development between 18 through 24 years of age is distinct and separate from early adolescence and early adulthood. Young people in developed societies have advanced cognitive reasoning skills, intensive personal identity exploration, a feeling of being in between childhood and adulthood, and a preoccupation with future possibilities. Later adolescence is also a time of fewer constraints and greater self-determination than early adolescence. Typical developmental tasks in later adolescence include gaining autonomy from parents, internalizing morality, and making career choices. Newman and Newman posited that the elaboration of adolescence into two stages (early and late) is closely

tied to social and historical changes. At the beginning of the 20<sup>th</sup> century, there were few youth in the 12 to 18 age range who were in school, while at the turn of the 21<sup>st</sup> century the majority of youths were in school. In the time period between the onset of puberty to adulthood, the time to gain independence has lengthened. Compared to 100 years ago, a longer period of education and training is now required. There are now also restrictions on employment of children under 16, fewer job opportunities for those without high school education, and an overall demand for more advanced interpersonal and technical skills in the workplace. In the context of future orientation, the importance of thinking about the future is especially pertinent for adolescents, as they are faced with a number of normative age-specific tasks, generally about their expected life-span development, set by their parents, peers, and teachers (Nurmi, 1991). Studies have also associated a positive sense of future orientation to positive development outcomes, such as scholastic achievement, social acceptance and psychological well-being (Schmid, Phelps & Lerner, 2011; Stoddard & Zimmerman, 2011).

### *Life Course Theory*

Elder (1998) proposed the concept of the life course as a developmental construct. He posited that individuals and groups follow trajectories for education, work and family in society. Social change, life pathways and individual development are behavioral manifestations of continuity and change. Elder posited the following four tenets of life course developmental theory: (1) lives are lived interdependently; (2) individuals construct their life courses within a set of social constraints; (3) the



developmental impact of life events depends on their timing in life and (4) the individual's life course is embedded in historical time and place.

Johnson, Crosnoe and Elder Jr. (2011) stressed that the essence of the life course perspective is that “development is lifelong and that no life stage can be understood in isolation from others” (p. 273). The authors highlighted three conceptual themes of the life course theory that are relevant during the adolescence period. These themes are (1) continuity and discontinuity in life pathways, (2) the role of individuals in their own development, and (3) the importance of historical changes. The authors argued that developmental trajectories in adolescence may remain stable across an individual's life stages or depart substantially from the past and be redirected to future pathways. This is because experiences in adolescence may provide turning points for continuity or discontinuity to occur as the adolescent accumulates prior life advantages and risks to determine his or her paths towards adulthood. The role of individuals in their own development focuses on an individual's selection of personal experiences and interpersonal relationships. It highlights the process of selection through the “agentic strivings” (p. 274) of an individual and the interplay between the environment and biology. The authors also argued that attention to historical context is important in gaining an understanding of adolescent development because historical moments change the landscape in which development take place. These broader currents of history “tend to leave their mark on the life course as well as on the psyche of young people” (p. 279). The authors stressed the current challenge to the study of adolescence is to incorporate these historical conditions into theoretical and empirical models.

#### *Future Orientation*

Seigner and Halabi-Kheir (1998) posited that in contemporary Western societies, there were expectations on adolescents to actively negotiate their passage into adulthood by considering, planning and preparing for the future. Hence, an orientation towards the future is an important developmental task in adolescence. An individual's future orientation consists of images that one holds about the future and these images are reflected in hopes and fears.

Nurmi (2005) defined the concept of future orientation as people's thoughts and actions about the future. Future orientation involves many cognitive, motivational, and affective processes. Cognitive processes include acquiring knowledge about the future, planning, anticipating, exploring and making decisions about future opportunities. The motivational dimension of future orientation include goals, interests, values, commitments about the future, and concerns, doubts, and fears. The affective dimension includes evaluative emotions and attitudes such as feelings of optimism, pessimism, hopefulness and despair. Nurmi (1991) posited that these three aspects of future orientation – cognitive, affective and motivational – be viewed as a system rather than three separate entities. He explained that people set their goals based on their values, motivations and expectations about the future. Planning comes in next as individuals work out how they can realize their goals. They also evaluate the possibility of actualizing their plans and attaining their goals.

*Affective Dimension: Worry about the Future*

The evaluative feelings and attitudes described in Nurmi's definition of the affective dimension of future orientation include optimism, pessimism, fear and worry about the future. Of interest in this study is the amount of worry that these adolescents

have about the future in the United States. In this country, fearful and worrisome images have become common in pop culture, and adolescents are increasingly bombarded with messages regarding their safety and security (Brown, Teufel, Birch & Kancherla, 2006). Worry in adolescence is a phenomenon that emphasizes negative outcomes and uncertainty about future events (Laugesen, Dugas & Bukowski, 2001). It has been associated with important behavioral and health outcomes, including insomnia, poor social skills, and weak academic skills, which put the students at greater risk for school failure or dropout (Brown et al., 2006). On the other hand, a hopeful sense for the future during adolescence can bring about positive change and successful transition into adulthood. Conversely, a negative sense of or lack of hope may lead some adolescents to be indifferent to risky behaviors that can adversely affect their future (Stoddard & Garcia, 2011). The content of adolescent worries in the context of future orientation have been found in the following three domains: (1) normative life-tasks, such as getting good education and employment, (2) non-normative events relating to their parents and family, such as health and divorce, and (3) societal historical events, such as threat of war (Nurmi, 1991). Drawing from the life course theory, it makes sense that if one is worried about the future, one's larger social contexts and circumstances play an important role in creating this negative outlook.

#### *Motivational Process: Aspirations*

Adolescents' aspirations and goals act like a compass to guide and chart their life span and also direct how they spend their time and energy. For example, the association between adolescent career aspirations and adult career attainment is well

established (Ashby & Schoon, 2012). Research has shown that young people with high career aspirations are more likely to enter a professional career and to earn more money in adulthood. Youths in the United States do have very high aspirations. Over 90% of today's high school seniors plan to go to college, and over 50% aspire to have professional and managerial jobs in their adulthood (Vuolo, Staff & Mortimer, 2011). According to Newman and Newman (2012), the choice of occupation sets the tone for one's early adult lifestyle. One's choice of work also sets implications for income and earning potential, one's personal finances, social status, advancement and income opportunities and may also be an expression of one's value system.

With regards to material aspirations that are of interest to this research study, youth perceive consumption as a way to move out of or between social classes, and to gain the associated social power (Deutsch & Theodorou, 2010). Research has shown that youths' market-related aspirations are only modestly related to their family's socioeconomic status. Deutsch and Theodorou (2010) argued that consumption is a powerful tool for the making of identities. For youths, it might be especially true that their imagined future selves reflect the desire to cross social class boundaries. Hence, the acquisition of material goods associated with upper-class lifestyles may signal increased status and position in society.

#### *Cognitive Process: Plans for the Future*

Nurmi (2004) posited that adolescents think a great deal about their future, and that the content of future-oriented cognitions – even across cultures – is almost universally focused on education, vocation, family, and material and life style goals. Nurmi (1993) argued that these goals reflects the “cultural prototype” (p. 176) of the

anticipated life-span development; that is, to first finish school, then get a job, get married and build a material base for their later lives. This ties in with the tenets of life course theory, where individuals construct their life trajectories within the set of social constraints around them, and suggests the importance of normative demands of late adolescence and early adulthood.

In addition, studies show that planning efficiency increases with age, and planning skills continue to develop from the teens to early 20s (Dreher & Oerter, 1987). In addition, as age increases, the realism in thinking about the future measured against levels of planning and realization of future goals also increases (Verstraeten, 1980). Studies that test for relationships between cognitive skills and planning skills showed low or no correlations (Nurmi, 1991). A possible explanation is that planning for the future becomes more meaningful and more encouraged by parents and teachers as adolescents grow older (Nurmi, 1991).

### *Purpose of Study*

This study attempted to place the future orientation of adolescents in the context of the life course theory by examining the MtF, a cross-sectional dataset, on the future orientation of adolescents over a period of 33 years. Three aspects of future orientation were measured: worry (affective), planning (cognitive) and material aspirations (motivational). The research questions that guided the investigation were (1) whether there are historical changes in adolescents' worry about national conditions; (2) whether their worries about national conditions influence how adolescents think about plans about the future or the material aspirations they have,

and (3) whether there are demographic differences in adolescents' worries, the value they place on plans or their material aspirations?

Drawing on both the life course theory and theory of future orientation, the two primary hypotheses in this study were: Hypothesis (1) the lower the level of worry adolescents have about their social contexts, the more confidence they have in planning for the future; and Hypothesis (2) the lower the level of worry adolescents have about their social contexts, the more material aspirations they have for the future. The key tenets of the life course perspectives that are relevant to these hypotheses are the importance of historical changes and the construction of life courses within a set of social constraints, historical time and place. It makes sense that if the social historical context has a role to play in the future orientation of adolescents, then when the sense of worry toward the future is low, adolescents have higher aspirations and more confidence in planning for the future.

## CHAPTER 3

### METHODOLOGY

#### *Procedures and Sample*

This research used secondary data from Monitoring the Future: A Continuing Study of the Lifestyles and Values of Youth (MtF), an annual cross-sectional study. In this section, the sampling and recruitment design, the sample, and the survey instrument of the MtF study are reviewed.

*Sampling design and recruitment:* The principal investigators of the MtF study at the University of Michigan employ a multi-stage sampling design to get an annual, nationwide sample of high school seniors (Johnson, Bachman, O'Malley & Schulenberg, 2010). In the first stage, the selection is based on geographic areas. These areas are the primary sampling units developed by the Survey Research Center (SRC) at the University of Michigan. In the second stage, one or more high schools are selected in each area. The selection probability of a school is proportionate to the size of its senior class. In the 3<sup>rd</sup> stage, seniors in each high school are selected. Within each school, up to 350 seniors are selected through random sampling for the data collection. Prior to the administration of the survey, the high school seniors are first informed of the survey by their teachers and given flyers about the study where the confidentiality of the participants and voluntary participation are stressed. Parents have the opportunity to decline their child's participation. The MtF surveys were administrated by local SRC representatives with the assistance of the school teachers during a regular class period.

*Sample:* Each year, from 1977 to 2010, the total number of schools participating in the MtF study, both private and public, ranged from 120 to 146. The total number of students sampled annually ranged from 13,286 to 18,924. The response rate of students ranged from 79% to 86% (Johnson et al., 2010).

*Study instruments:* The MtF questionnaire is divided into different forms – five forms from 1975 to 1988, and six forms from 1989 – in order to cover the many questions in several subject areas. As a result of the division, five or six almost similar subsamples are produced each year. The MtF questionnaires are self-completed and are formatted for optical scanning. About one-third of each questionnaire form is made up of common core questions including demographic variables and certain measures of drug use. Other subject areas in MtF include demographic factors, attitudes about drug use, the government, social institutions, race relations, changing roles for women, educational aspirations, occupational aims, and marital and family plans. According to the administrators of MtF, there is little empirical evidence on the validity and reliability of the questions because they were used exclusively for MtF study. The administrators argued that there is some evidence of construct validity in their analysis and that it is easy for readers to judge the “face validity” of the individual questions as they are not indexes or abstract concepts (Johnson et al., 2010).

### *Measures*

The principal investigators of MtF have categorized several subject areas within the questionnaire. For this research study, the questions from Form 5 were selected, as it had the most questions relevant to future orientation. The MtF researchers at the University of Michigan recommend that all analysis use the



sampling weights assigned to each participant (Johnston et al., 2010). According to the researchers, the weights take into account “variations in the sizes of samples from one school to another, as well as (smaller) variations in selection probabilities occurring at the earlier stages of sampling” (p. 3). In this study, sampling weights assigned to each participant are used in all analyses.

Three scales were constructed from the MtF questionnaire to measure the three dimensions of adolescents’ future orientation: the amount of worry they have about the country (affective), the value they place on planning for the future (cognitive), and their material aspirations (motivational). Different statistical procedures were used to construct each scale.

*Worry scale:* In Form 5, there are 11 questions on how often participants worry about specific problems facing the United States: “Chance of nuclear war”, “Population growth”, “Crime and violence”, “Pollution”, “Energy shortages”, “Race relations”, “Hunger and poverty”, “Using open land for housing or industry”, “Urban decay”, “Economic problems” and “Drug Abuse”. The responses were “1=Never, 2=Seldom, 3=Sometimes, 4=Often”. As the 1977 dataset was used as the base year for comparison across the 33-year period, the 1977 data were analyzed to construct the multiple-item scale. An item analysis was first conducted to determine if the selected items relate strongly to the construct of interest (Green & Salkind, 2008). The internal consistency among the 11 items was good (Cronbach’s  $\alpha = 0.79$ ), and all the item-total correlations were greater than 0.30. A principal component factor analysis was then conducted, which yielded one key component among the 11 items and the appropriate loadings of each item (Refer to Table 1 for the loadings of each item).

From the component loadings, the top three items were: “Hunger and Poverty”, “Economic problems” and “Urban Decay”. Finally, a mean Worry score was calculated for each participant by multiplying their answers for the items by the loadings and getting the mean of the 11 items. A high score indicates more worry.

*Plans scale:* In Form 5, there are five questions on plans for the future. The questions ask if participants agree or disagree with the following statements: “Planning only makes a person unhappy since plans hardly ever work out anyway”, “People who accept their condition in life are happier than those who try to change things”, “ When I make plans, I am almost certain that I can make them work”, “Planning ahead makes things turn out better”, “I feel hesitant about taking a full-time job and becoming part of the "adult" world”. The responses are “1="Disagree" 2="Mostly Disagree" 3="Neither" 4="Mostly Agree" 5="Agree". The responses for the items on planning and unhappiness, acceptance in life, and hesitancy were recoded so that the higher number reflects higher confidence placed on planning. An item analysis was conducted to assess if the five items correlate to the construct. The internal reliability scale for the five items was poor (Cronbach’s  $\alpha=0.50$ ). Two items had the lowest item-total correlations: “People who accept their condition in life are happier than those who try to change things” ( $r=0.17$ ), and “I feel hesitant about taking a full-time job and becoming part of the ‘adult’ world (0.11). According to Green and Salkind (2008), researchers should select items based on the correlations between the items and also how the items rationally and theoretically relate to the construct. Upon closer examination, these two items differ in conceptual meaning from the other three items, as they do not specifically refer to future plans. Based on

these results, these two items were eliminated from the scale. The revised three-item scale yielded a coefficient alpha of 0.60 and the item-total correlations were all greater than 0.30. A principal component analysis for these three items also yielded one key component. A mean Plans score was calculated for each participant by obtaining the mean of the three items. A high score means greater confidence in planning for the future.

*Material Aspirations scale:* In Form 5 of the MTF survey, two questions on the desired amount of materialistic possessions in the future are asked: "When you are older, do you expect to own more possessions than your parents do now, or about the same, or less? I expect to own..." and "Compared with your parents, what is the smallest amount that you could be content or satisfied to own? The least I could be content to own is...". The responses were: "1="Much less than my parents" 2="Somewhat less than my parents" 3="About as much as my parents" 4="Somewhat more than my parents" 5="Much more than my parents". The internal reliability between these two items was acceptable (Cronbach's alpha=0.64). A mean Material Aspirations score was calculated for each participant by finding the mean of the ratings for both items. A high score indicates aspirations to exceed one's parents' material possessions.

*Demographic variables:* Four key independent variables were examined for statistical relationships with these three scales over time: the gender of the respondents, the residential setting where respondent mostly grew up, and the highest level of schooling attained by the respondent's father and mother. Specifically, parents' education was the only indicator for the family socio-economic status. To

derive more meaningful data from the statistical analyses and information that would be easier and simpler to interpret, two of the independent variables were recoded into smaller groups. The residential settings where respondents grew up were recoded from nine to three groups: “Small city/town or smaller” (under 50,000 people), “Medium city or suburb” (50,000- 100,000) and “Large or very large city/suburb” (100,000 to over 500,000). The highest level of schooling completed by the father and mother of the respondents was recoded from seven to three groups: “Some high school or less”, “Completed high school” and “Some college or more”.

### *Data Analysis*

The data were analyzed using IBM SPSS Version 19.0. For all analyses, a p-value of less than 0.05 was considered significant. Data analysis first included frequencies and descriptive statistics of the entire sample. To determine correlational relationships among the three measures in Hypothesis 1 and 2, bivariate correlational analyses were used to determine if lower level of worry correlated with higher values placed on plans and more material aspirations. For the research question on differences by demographic variables, the independent sample t-test was used to test for significant differences between the two different categories by gender. One-way ANOVA was used to test for differences in the three different categories for the residential settings as well as for the level of education attained by the respondents’ fathers and mothers. In the ANOVA tests, the assumption for normality is addressed with the use of large sample sizes. The assumption for independence is addressed with annual sampling of graduating seniors’ classes. While information on the geographic areas and schools in the MtF data is not made available to researchers, the MtF project

ask for all schools to participate in two data collections. Therefore half of the total sample of schools is replaced each year. The Levene's test was used to test for homogeneity of variances. In cases where there was no homogeneity in variances, the Welch adjusted F statistic value was reported. It is preferable that the Welch adjusted F statistic be used in instances where equality of population variances cannot be assumed (Green & Salkind, 2008). In addition, where there are unequal variances, the Dunnett's C test was used as the post hoc analysis for multiple comparisons. Dunnett's C multiple comparison is recommended for analysis with unequal variances with large sample sizes (Green & Salkind, 2008).

## CHAPTER 4

### RESULTS

In this section, a description of the sample is first discussed, followed by the correlational relationship among the three measures, the historical trends of the scores over the 33-year period and demographic differences within the measures. Only statistically significant results are discussed.

#### *Preliminary Analysis*

From 1977 to 2010, the annual subsample size that answered Form 5 ranged from 2,113 to 3,585. The total sample size over the 33-year period was 96,165. About 47% of the respondents were male, and 49.2% were female. By residential settings where the respondents grew up, about 45.6% of the total sample was from small towns or rural settings, 19.4% from medium-sized cities or suburbs, and 25.2% from large or very large cities. For the level of education status attained by the respondents' Fathers, about 16.8% of the total sample reported that their Father attended some high school or less, 27.8% completed high school, and 46.7% had at least some college education. For the level of education of their Mothers, 14.4% of the respondents reported that their Mother attained some high school or less, 33.6% completed high school, and 46.2% had at least some college education.

Research Question One: The first research question asked if there were historical changes in adolescents' worry about national conditions? To answer this question, the mean Worry score was examined for changes over time. For the Worry

scale, the respondents reported a mean score that ranged from a minimum of 1.19 to a maximum of 1.45 across the 33-year period (See Table 2 for the mean Worry score by year). While, the overall trend was one of decline from 1977 to 2010, the pattern was one of alternating decrease and increase with three peaks and two valleys. The first peak ( $M = 1.45$ ) was in 1977 followed by a decline of 10 years to a valley ( $M = 1.30$ , Dunnett C's mean difference= $0.15$ ,  $p < 0.05$ ) in 1987. After 1987, there was a short 5-year period of increase to the next peak ( $M = 1.43$ ) in 1992 (Dunnett C's mean difference= $-0.13$ ,  $p < 0.05$ ). The mean score then decreased to the lowest point (1.19) over the next 10-year period in 2003 (Dunnett C's mean difference= $0.23$ ,  $p < 0.05$ ). From 2003 to 2008, the mean score increased steadily to 1.31 in 2008 (Dunnett C's difference =  $-0.11$ ,  $p < 0.05$ ). From 2008 to 2010, there was a decline in the Worry mean score from 1.31 to 1.27 (mean difference= $0.04$ ,  $p < 0.05$ ). (See Figure 3 for the line graph of mean Worry scale by year). In summary, the Worry score decreased over the 33-year period and had alternating periods of decline and incline.

Research Question Two: The second research question was whether worries about national conditions influence the level of confidence adolescents have on plans for the future or their material aspirations. Specifically, the two primary hypotheses related to this research question were: Hypothesis (1) the lower the level of worry adolescents have about their social contexts in the future, the more confidence they place on plans for the future, and Hypothesis (2) the lower the level of worry adolescents have about their social contexts in the future, the more material aspirations they have for the future. To investigate this research question, the mean Aspiration and the mean Plan measures were first examined for trends variation over time and then

compared to that of the mean Worry score. A bivariate correlation test was then conducted to test the correlation among the three measures.

For the Material Aspirations scale, participants reported a mean score that ranged from 3.05 to 3.35 (See Table 4 for the mean Material aspirations scores by year). The overall trend from 1977 to 2010 was one of a gradual incline except for valley dips in 1993 to 1996 and 2001 to 2009. From 1977 to 1993, the mean score increased steadily from 3.05 to a peak of 3.35 in 1993 (mean difference between 1977 and 1993 = 0.30,  $p < 0.05$ ). From then, the score decreased steadily to 3.21 in 1996 (mean difference between 1996 and 1993 = - 0.14,  $p < 0.05$ ). From then, it increased steadily again to another peak in 3.32 in 2001 (mean difference between 2001 and 1996 = 0.11,  $p < 0.05$ ). From 2001 onward, the score fell steadily to 3.21 in 2009 (mean difference = -0.11,  $p < 0.05$ ), from then it started to increase again. (See Figure 5 for the plot of mean Material Aspiration score by year). In summary, the mean Aspiration score increased from 1977 to 2010, with more gradual declines within the 33-year period.

As for the Plans for the Future Scale, over the 33-year period, respondents reported a mean score that ranged from 3.69 to 3.86 (See Table 6 for the mean Plans score by year). While the overall mean score decreased from 1977 to 2010, the pattern of the score starting from 1977 was one of gentle inclines and declines around the overall mean score of 3.78. There were no significant differences between 1977 and subsequent years, except for 2010 (Dunnett C's mean difference = 0.10,  $p < 0.05$ ). Other than the two peaks of 3.86 in 1980 and 1984, the trend from 1984 to 2010 was one of a downward decline (Dunnett C's mean difference = 0.17,  $p < 0.05$ ). (See Figure 7 for the



line graph of mean Plans scale by year). In summary, the plans score had an overall decrease from 1977 to 2010 with very slight variations over the years.

The correlation between the mean Worry score and the mean Plans score was small but significant [ $r(90,235)=0.110$ ,  $p<0.001$ ]. The correlation between the Mean Plans score and Mean Material Aspirations score was also significant, but small [ $r(89,594)=0.034$ ,  $p<0.001$ ]. The patterns revealed that over time, the mean Worry score had the most variation with an overall downward decline. The mean Aspiration scale has an overall upward incline while the mean Plans scale had an overall downward decline. (See Figure 8 for the line graphs of the three measures). While the patterns of the mean Worry score and mean Plans score trends were similar, upon closer examination, the statistically significant peaks and valleys of the mean Worry score (1977 to 1987, 1987 to 1992, 1992 to 2003, and 2003 and 2010) were not statistically significant in the mean Plans score. In other words, the statistically significant peaks and valleys of both measures did not coincide. As for the comparison between the trends of the mean Worry score and the mean Material Aspirations score, they did not run in the same direction of change.

Research Question Three: The third research question asked if there were demographic differences in adolescents' worries, the confidence they place on plans for the future or material aspirations. To answer this research question, each scale was first examined by demographic characteristics.

For the Worry scale, in terms of gender of the respondents, female respondents reported significantly higher mean Worry scores than male participants [ $t(91403.4)=39.1$ ,  $p<0.001$ ]. Over the 33-year period, the mean scores of both female and male

respondents are similar to the pattern of the overall Mean score, one of alternating decreases and increases with the same peak and valley years (See Figure 9 for the line graph of mean Worry scale by gender).

By residential settings, respondents who grew up in large or very large cities reported the highest mean Worry scores. Respondents from small towns or rural settings reported the lowest mean Worry scores. Using the Dunnett C's test, there are significant differences in the means for these three groups [Welch adjusted  $F(2,44604.0) = 115.5, p < 0.001$ ]. The pattern over the 33-year period was also the same as that of the overall mean Worry score, with the same alternating decreases and increases (See Figure 10 for the line graph of mean Worry scale by location).

By the level of education attained by the respondents' Fathers, respondents whose Father did not complete High School reported the highest mean Worry score. However, in the period from 1987 to 1992, and 1995 to 2002, the group whose Father completed some college or more education reported the highest Worry mean score than the other two groups. Respondents whose Father completed High School reported the lowest mean Worry score. Using the Dunnett's C test, there were significant differences amongst all three groups of respondents [Welch adjusted  $F(2, 40765.9) = 74.4, p < 0.001$ ]. The pattern over the 33-year period was also the same as that of the overall mean score (See Figure 11 for the line graph of mean Worry scale by Father's education).

As for the level of education attained by respondents' Mothers, respondents whose Mother did not complete High School reported the highest mean Worry score except for 1989 to 1994, 1995 to 1996, 1999 to 2000. Respondents whose Mother

completed High School reported the lowest mean Worry score. This was the same result as that of the level of education attained by respondents' Fathers. Using the Dunnett C's test, there were significant differences among all three groups [Welch adjusted  $F(2, 37542.7) = 68.0, p < 0.001$ ]. The pattern over the 33-year period was also same as that of the overall Mean score (See Figure 12 for the line graph of mean Worry scale by Mother's education).

In summary, for the Worry scale, female respondents tend to worry more than males; respondents who grew up in large or very large cities worried most; and respondents of lower socio-economic status worried most.

The Material Aspiration scale was examined by demographic variables. Over the 33-year period, male participants reported statistically higher mean Material Aspiration scores than female participants [ $t(90333.8) = 12.9, p < 0.001$ , mean difference = 0.07]. From 1977 to 2010, males generally reported significantly higher material aspirations scores except in 2008. From 1977 to 1995, the trends of the males' ratings and females were similar with the same inclines and declines. From 1995, the patterns moved in opposite directions and in 2006 to 2010, females reported higher scores, although the differences were not significant except in 2008. Both genders reported the lowest scores in 1977. (See Figure 13 for the mean Material Aspirations score by gender).

By residential settings, participants who grew up in large and very large cities gave the highest ratings on the Material Aspiration scale compared to participants from medium sized cities and suburbs. There were no significant differences between the medium-sized cities and the smaller towns groups. From 1977 to 2004, the patterns

of the three groups followed the same pattern with similar peaks and valleys (See Figure 14 for the mean Material score by residential settings).

By Father's education, participants whose Father did not complete High School reported the highest mean Material Aspirations scores [Welch's adjusted  $F(2, 40986.1) = 678.9, p < 0.000$ ]. The group whose Father had some college or more education reported the lowest ratings. The Dunnett's C test showed significant differences among the three groups. From 1977 to 2010, the patterns of the three groups moved in the same directions, with similar peaks and valleys; after 2001, there were more variations with the group whose Father did not complete High School (See Figure 14 for the mean Material Aspirations score by Father's education).

By Mother's education, the group whose Mother did not complete high school reported the highest Material Aspirations scores, while the group whose Mother had some college or more reported the lowest scores. [Welch's adjusted  $F(2, 37397.3) = 462.5, p < 0.000$ ]. The Dunnett's C test showed that there were significant differences among the means of the three groups. From 1997 to 2004, the patterns of the three groups moved in the same direction with the similar peaks and valleys; after 2004, the group whose Mother had some college or more education moved in a different direction from the other two groups. (See Figure 16 for the mean Material Aspirations score by Mother's education).

In summary, in earlier cohorts, the males had higher material aspiration scores but in the more recent cohorts, females reported higher scores. Respondents who grew up in large and very large cities had the highest scores; and respondents of lower socio-economic status had the highest scores.

Examining the mean Plans score by demographic variables, female respondents reported higher mean Plans score than male respondents [ $t(88212) = -8.71, p < 0.001$ ]. Initially from 1977 to 1982, male respondents reported higher scores than female respondents. The trend switched from 1982 to 1986, when female reported higher scores. For a short period from 1986 to 1990, the trend switched again, when male respondents reported higher scores. However, from 1990 to 2010 females consistently reported higher scores than male respondents. Notably, the patterns of the female respondents and male respondents moved in opposite directions from 1986 to 1994. Over the 33-year period, the mean Plans score reported by male respondents exhibited a steeper downward slope compared to that of female respondents. (See Figure 17 for the line graph of mean Plans score by gender).

In terms of residential settings, respondents who grew up in large or very large cities reported the highest mean Plans scores. In a few years namely 1984, 1986, 1990 to 1994, 1996, 2002 to 2003, 2003 to 2006, and 2008 to 2010, the group who grew up in medium-sized cities reported the highest scores of the three groups. Respondents who grew up in small towns or rural settings reported the lowest scores. Using the Dunnett C's test, there were significant differences amongst the three groups [Welch adjusted  $F(2, 42619.3) = 72.0, p < 0.000$ ]. (See Figure 18 for the line graph of mean Plans score by location).

By Father's education, respondents whose Fathers had at least some college level of education reported the highest mean Plans score, while respondents whose Father did not complete High School reported the lowest mean Plans score [Welch adjusted  $F(2, 37433.9) = 384.0, p < 0.000$ ]. Using the Dunnett C's test, there were

significant differences amongst the three groups. Also, the patterns of the three groups were similar over the 33-year period. (See Figure 19 for the line graph of mean Plans score by Father's education).

By Mother's education, respondents whose Mothers had at least some college level of education reported the highest mean Plans score, while respondents whose Mothers did not complete High School reported the lowest mean Plans score [Welch adjusted  $F(2, 34209.2) = 382.0, p < 0.000$ ]. Using the Dunnett C's test, there were significant differences amongst the three groups. Over the 33-year period, the patterns of the groups "Some college or more" and "Completed High School" had similar peaks and valleys. The pattern of the group "Some High School or less" had more marked variations in the period 2004 to 2007, with a significant valley in 2006. (See Figure 20 for the line graph of mean Plans score by Mother's education).

In summary, in earlier cohorts, the males had higher plans scores but in the more recent cohorts, females reported higher scores. Respondents who grew up in large and very large cities had the highest scores; and respondents of higher socio-economic status had the highest scores.

## CHAPTER 5

### DISCUSSION

The research questions in this study addressed whether (1) there are historical changes in adolescents' worry about national conditions; (2) whether adolescents' worries about national conditions influence how they think about plans about the future or the material aspirations they have; and (3) whether there are demographic differences in adolescents' worries, the confidence they place on plans for the future, or their material aspirations?

Examining the trends of the three measures across 1977 to 2010, adolescents' worries, their material aspirations, and the value they place on planning showed different patterns over time. Overall, the material aspirations and the value they have in plans changed slightly over the 33-year period, while the level of worry they have changed the most. The life course theory provides a possible explanation for the varying amount of worry that adolescents have.

In a study, Pennebaker, Páez and Deschamps (2006) asked college students to define the most important events of the last 10 years. The U.S. sample ranked the following: Gulf War, USSR Collapse, Clinton Scandal, Princess Diana death, Internet, Terrorism, Computers, Medical Advances, AIDS and Space. This list served as a starting point to look at significant historical events. From this list, it was posited that events of advances and wars were identified as significant to young adults. The variations in the Mean worry score as reported by high school seniors corresponded to

most of these events. During the periods of advancement – computers and Internet (mid 1970s to 1980s) and the bubble economy of the 2000s – the amount of worry decreased. During periods likely to cause anxiety - such as the 1980, 1990 and 2007 recessions, anti-terrorism measures in the U.S., the Gulf, Afghan and Iraq wars - the level of worry increased. While this research study could not show a causal relationship between these socio-historical contexts and the level of worry that adolescents had, the results of this study are consistent with previous studies that showed generational and cohort differences in various aspects of adolescent development that reflected the significant socio-historical circumstances (e.g. Twenge et al., 2012; Wray-Lake et al. 2010).

The first hypothesis predicted that the lower the sense of worry adolescents have about their social contexts, the higher the value placed on plans for the future. This study provided weak evidence to support this hypothesis. The level of worry adolescents have and the value they place in plans for the future were only slightly correlated and did not have the same increases and decreases over time. Hence, the results suggest that the confidence that adolescents have in their plans for the future is not or is less influenced by social contexts, in contrast to the level of worry they have on national conditions.

The second hypothesis predicted that the lower the sense of worry, the higher the material aspirations. However, the results did not support this hypothesis. The amount of worry and the material aspirations of adolescents were only very slightly correlated, and the patterns of changes were not similar and often ran in opposite directions. This meant that the material aspirations of adolescents are not influenced



by socio-historical contexts.

These findings are counter to Nurmi's argument that the three dimensions of future orientation are related. An alternative explanation could be that optimism for personal expectancy for success is the norm for children and adolescents (Kassinove & Sukhodolsky, 1995). Also, Poole and Cooney (1987) posited that youths separate their personal futures and societal futures. Personal futures were seen as more pleasant and proximal, while societal futures, especially nuclear war and political issues, were seen as more unpleasant and distal. Nurmi (1991) argued that experience of the threat of war does not decrease adolescents' thinking about and planning for their personal future life. While adolescents are concerned about global threats, which are beyond their power to influence, they are able to simultaneously plan their own future.

In terms of changes over time by demographic variables, the most significant shift is the increase in material aspirations and in the confidence placed in plans for the future of female respondents. In more recent years – from 2006 to 2010 – females began reporting higher material aspirations than males. From 1990 to 2010, more female respondents have confidence in plans for the future than male respondents. This result is reflective of current times where women aspire to do as well as men professionally and financially. According to Reynolds, Stewart, Sischo & MacDonald (2006), the higher enrollment in college by racial and ethnic minorities and women reflects the greater opportunities available to them after the Civil Rights Movement and Title IX. Specifically of interest to our study, the educational attainments of young women have been steadily increasing since the 1970s and they have now surpassed men in college enrollment, earned bachelor's and master's degrees. At the same time,

though, it should be noted that females tend to have more worries. This is consistent with studies that found boys to be more optimistic about the future, while girls are more pessimistic. One possible explanation posited by Nurmi (1991) is the increased challenge for girls in the modern female role to achieve both at home and their occupation.

The results of this study also clearly indicate that the future orientation of adolescents varies by socio-economic status. Respondents who were of lower socio-economic status were more likely to worry about the country. This group also reported the highest material aspirations but they have less confidence in future plans compared to groups with higher socio-economic status. This finding is consistent with studies that show differences in future orientation by socio-economic status. Adolescents from higher socio-economic backgrounds tend to plan their future more than youths from relatively lower economic backgrounds (Nurmi, 1991). Also, adolescents from higher income families are more likely than adolescents from lower income family to aspire for professional jobs, to expect to stay on in education, and to perform better in examinations at the age of 16 (Ashby & Schoon, 2010).

By residential settings, respondents who lived in large or very large cities tend to worry more, had the highest material aspirations scores and place more value on plans for the future than respondents who grew up in other locations. While there is currently little research done on the differences in future orientation by residential settings, the results are consistent with studies that show that students from rural communities have limited exposure to a wide range of educational and career opportunities (Andres & Looker, 2001). This could explain why rural youths had

lower material aspirations and lower confidence in their plans for the future.

Looking at the overall trends over time, adolescents' material aspirations increased while the value adolescents place on plans for the future had an overall decrease in the 33-year period. This can be worrisome, as planning is a process that helps individuals actualize their goals. Some scholars have also argued that planning for the future is an important developmental task in adolescence (see Seigner & Halabi-Kheir, 1998). In this current technological advanced age with an increase need for efficiency and speed in a competitive environment, making plans for one's future is an important skill to value and to possess.

### *Limitations*

Many limitations are apparent in this research study. First, the life course theory studies development with a life-course perspective over time. However, the data in this study is cross-sectional with no longitudinal component.

The analysis was limited by the use of secondary data from the MtF study. Hence, specific hypotheses to relate future orientation to significant socio-historical events and changes by demographic variable could not be developed and tested due to the limitation of the pre-determined questions in the MtF study. This was because this study used secondary data with predetermined questions from a larger study that prevented specific questions on such associations from being asked and tested.

Another limitation cited by the administrators of MtF is that it did not include those young men and women who drop out of high school before graduation. This subgroup accounted for between 12 and 15 percent of each age (2010). Another limitation is that the MtF survey tracked only two ethnic/racial groups for much of the

earlier years: White and Black. In the later years, a Hispanic group was added. As a result, it was not possible for the purpose of this research study to track differences by ethnic backgrounds. In addition, even though the administrators stated that the items in the MtF survey had been carefully developed through a process of question writing, pilot testing, pretesting, question revision or elimination, it is disappointing that there was little empirical evidence on the reliability and validity of the questions in MtF.

Another limitation is that the MtF questionnaire was a self-report measure. The reliability of a self-report measure may be compromised. Some respondents may not be truthful in their responses, either because they could not accurately recall the answers or because they wanted to present themselves in a socially acceptable manner. This latter explanation is known as the social desirability bias, which has been found to be a problem in self-report measures (Mertler & Charles, 2011).

#### *Implications of Findings*

The results of this study did provide implications for future research. This study suggested that some dimensions of adolescents' future orientation fit better with the life course theory than other dimensions. There might be other mediating factors that were not considered or taken into account in this study. Future studies could examine the relations between specific dimensions of future orientation against the specific significant socio-historical events (such as socioeconomic trends, global concerns and terrorism) at that point in time. Specific contents of future orientation that can also be studied include aspirations and plans related to education, career and family. Other affective dimensions that can be studied include feeling of optimism or sense of hope.

In addition, future studies should also explore the relationship between the future orientation and the demographic characteristics of adolescents. The results of this study indicate that adolescents' future orientation varies by demographic characteristics and their variations over time. This finding is informative because it offers insight into the different expectations various groups of adolescents have as they enter the changing world. A possible research question, for example, related to the future orientation of young males. While more is known about the changes over time for young females' entry into school and work, less is known about males. Are they planning less or aspiring less than earlier cohorts?

In terms of practical implications, this study suggests the need for social services to support the development of future plans towards one's aspirations, particularly for adolescents who are less inclined to do so; for example, adolescents from lower socio-economic backgrounds or rural settings. Previous research studies have indicated that an overall positive future orientation facilitates successful transition into adulthood, such as scholastic achievement and career choices. For example, according to Schneider and Stevenson (1999) encouraging adolescents to aim high is as just as important as aligning their ambitions where they know what they need to do and what they need to achieve it. Interventions that support youth to develop a more positive sense of future orientation and help youth identify future possibilities, stay motivated and make better behavior and life choices. For example, educational policies that encourage high schools to foster thinking and planning skills in their students could be implemented. Programs and activities that help students to make plans and goals that incorporate their educational and career aspirations could be

promoted in schools. This way, youths stay engaged and motivated to achieve their long-term goals and to make informed decisions and choices along the way. In addition, current efforts by colleges, universities and private foundations to introduce high school students to the admissions process and to prepare students for college should be supported by high schools. At the home front, parents could also talk to their teenagers about their aspirations and help them plans and goals aligned to these aspirations.

### *Conclusion*

This study found that there have been shifts in the level of worry high school seniors feel from 1977 to 2010. On the other hand, the confidence that they place on plans for the future and their material aspirations remain relatively constant. By demographic characteristics, there was also variation by gender, socioeconomic statutes and geographical location. Thus, interventions that foster the development of future plans and aspirations for youth - especially those from lower socioeconomic or rural backgrounds - would be helpful. This study adds to the knowledge of adolescents' future orientation in the context of socio-historical shifts across time.

Table 1: Factor Loadings for Worry Scale

Worry Items	Component Loadings
Nuclear War	0.34
Population Growth	0.55
Crime and Violence	0.57
Pollution	0.58
Energy Shortage	0.51
Race Relation	0.54
Hunger and Poverty	0.64
Use Open Land	0.46
Urban Decay	0.59
Economic Problem	0.60
Drug Abuse	0.48

Table 2: Mean Worry Score by Year

Year	Sample	Mean	Std. Deviation	Variance
77	3123	1.45	.26	.07
78	3745	1.43	.26	.07
79	3291	1.42	.26	.07
80	3263	1.41	.26	.07
81	3644	1.43	.22	.07
82	3613	1.39	.26	.07
83	3338	1.37	.26	.07
84	3293	1.33	.27	.07
85	3280	1.32	.27	.07
86	3059	1.30	.26	.07
87	3340	1.30	.28	.08
88	3321	1.32	.28	.08
89	2858	1.34	.28	.08
90	2609	1.38	.27	.08
91	2612	1.39	.28	.08
92	2742	1.43	.28	.08
93	2824	1.42	.28	.08
94	2659	1.38	.29	.08
95	2664	1.33	.29	.08
96	2495	1.34	.28	.08
97	2636	1.32	.30	.09
98	2622	1.28	.30	.09
1999	2342	1.25	.30	.09
2000	2192	1.26	.30	.09
2001	2222	1.27	.31	.10
2002	2260	1.22	.30	.09
2003	2528	1.19	.29	.08
2004	2544	1.22	.31	.10
2005	2559	1.22	.32	.10
2006	2470	1.25	.32	.10
2007	2520	1.27	.31	.10
2008	2443	1.31	.31	.10
2009	2367	1.29	.31	.09
2010	2522	1.27	.30	.09
Total	96002	1.33	.29	.09



Figure 3: Mean Worry Score by Year

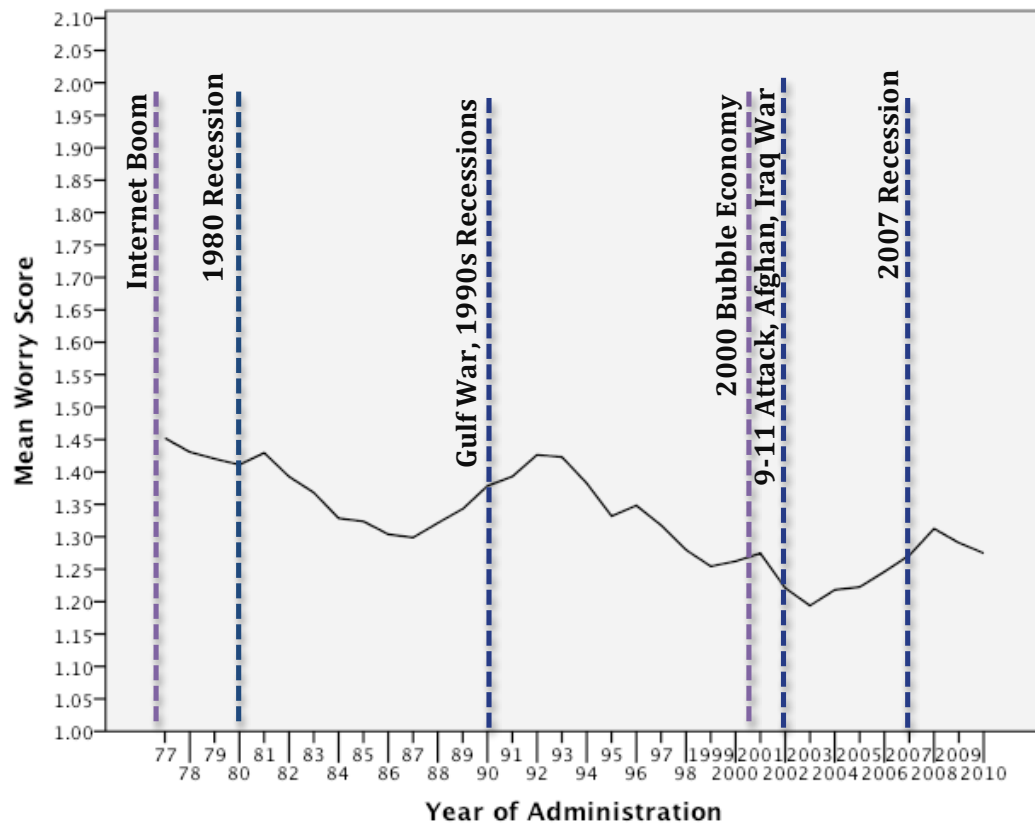


Table 4: Mean Material Aspiration Score by Year

Year	Sample	Mean	Std. Deviation	Variance
77	3093	3.05	.79	.63
78	3721	3.07	.79	.62
79	3263	3.06	.77	.60
80	3249	3.05	.80	.64
81	3623	3.13	.81	.66
82	3594	3.14	.78	.60
83	3331	3.17	.77	.60
84	3277	3.19	.79	.63
85	3263	3.24	.81	.66
86	3036	3.23	.79	.63
87	3335	3.27	.81	.66
88	3294	3.28	.81	.66
89	2839	3.30	.78	.62
90	2591	3.30	.82	.68
91	2597	3.33	.85	.72
92	2725	3.31	.82	.68
93	2811	3.35	.84	.71
94	2644	3.30	.83	.70
95	2650	3.27	.83	.70
96	2469	3.21	.84	.71
97	2618	3.23	.84	.71
98	2606	3.28	.86	.74
1999	2328	3.28	.83	.69
2000	2161	3.29	.87	.76
2001	2207	3.33	.87	.76
2002	2227	3.30	.86	.74
2003	2489	3.31	.83	.70
2004	2516	3.27	.89	.80
2005	2527	3.26	.88	.77
2006	2420	3.28	.85	.72
2007	2471	3.26	.86	.74
2008	2404	3.25	.90	.81
2009	2270	3.22	.88	.76
2010	2496	3.28	.86	.78
Total	95143	3.23	.83	.70

Figure 5: Mean Material Aspirations Score by Year

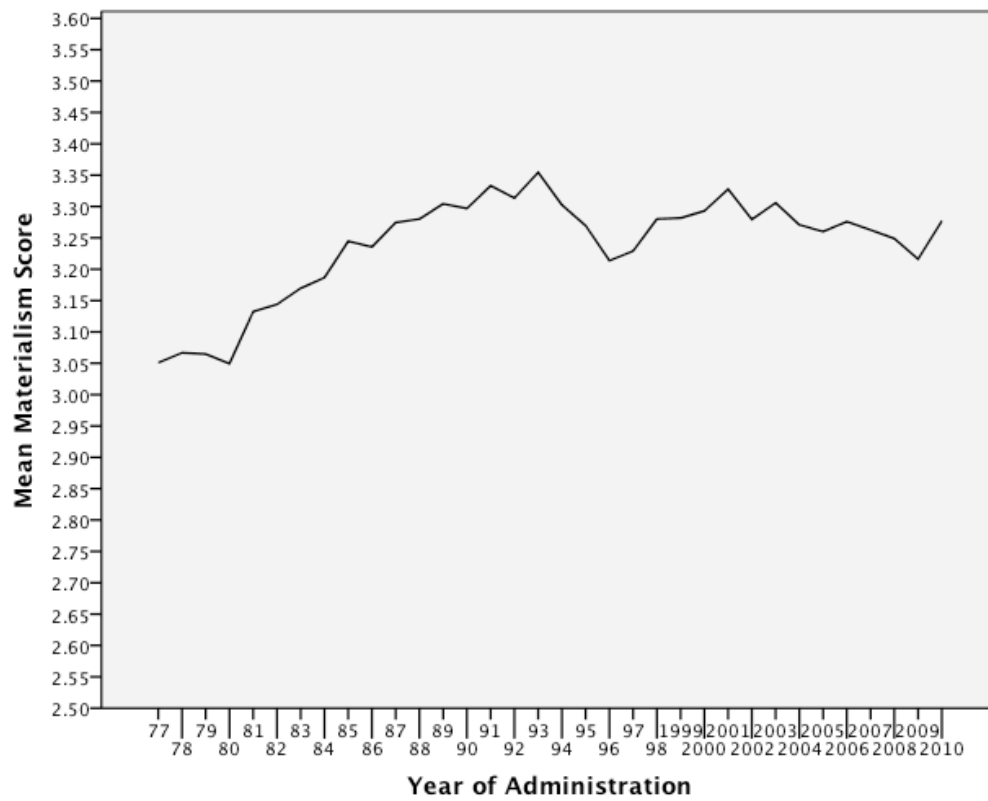


Table 6: Mean Plans Score by Year

Year	Sample	Mean	Std. Deviation	Variance
77	2913	3.80	.83	.69
78	3475	3.78	.83	.68
79	3100	3.81	.83	.70
80	3075	3.86	.78	.61
81	3440	3.85	.80	.63
82	3425	3.82	.81	.66
83	3164	3.83	.80	.64
84	3125	3.86	.80	.65
85	3090	3.85	.79	.63
86	2903	3.80	.79	.62
87	3139	3.80	.81	.65
88	3139	3.77	.81	.66
89	2714	3.78	.81	.66
90	2477	3.81	.82	.67
91	2476	3.81	.83	.70
92	2600	3.79	.83	.69
93	2667	3.79	.82	.67
94	2522	3.76	.84	.71
95	2528	3.74	.84	.70
96	2364	3.78	.82	.68
97	2444	3.79	.82	.67
98	2432	3.78	.81	.66
1999	2230	3.77	.81	.66
2000	2034	3.74	.83	.69
2001	2063	3.73	.82	.68
2002	2085	3.74	.82	.67
2003	2377	3.74	.82	.68
2004	2414	3.71	.82	.68
2005	2400	3.75	.83	.68
2006	2320	3.74	.82	.67
2007	2356	3.79	.78	.62
2008	2278	3.75	.80	.64
2009	2216	3.70	.83	.69
2010	2296	3.69	.83	.68
Total	90283	3.78	.81	.67

Figure 7: Mean Plans Score by Year

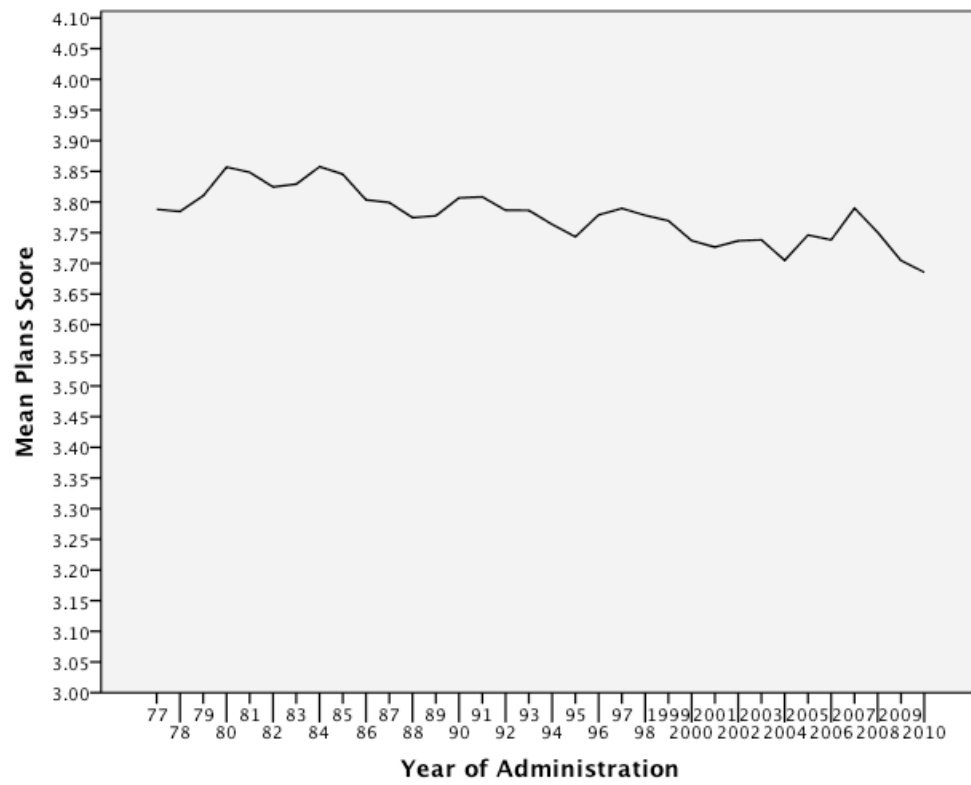


Figure 8: (1) Mean Worry Score, (2) Mean Plans Score (3) Mean Material Aspirations Score by Year

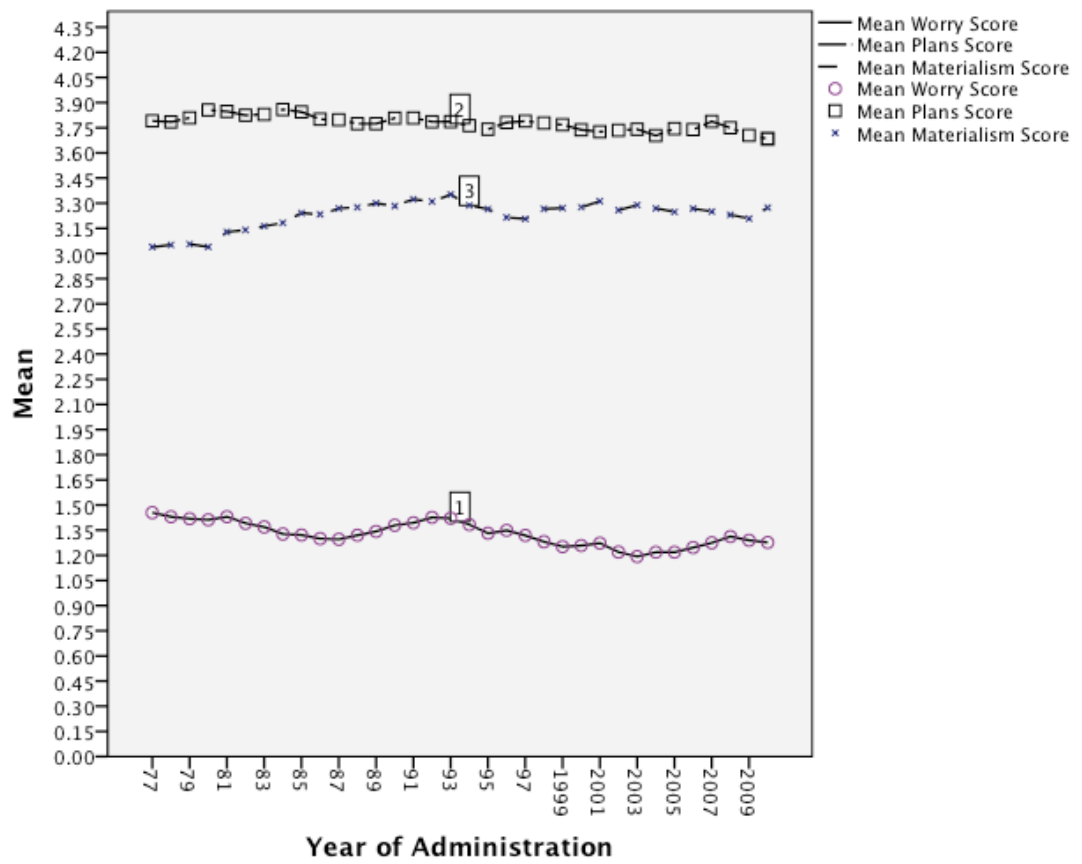


Figure 9: Mean Worry Score by Gender

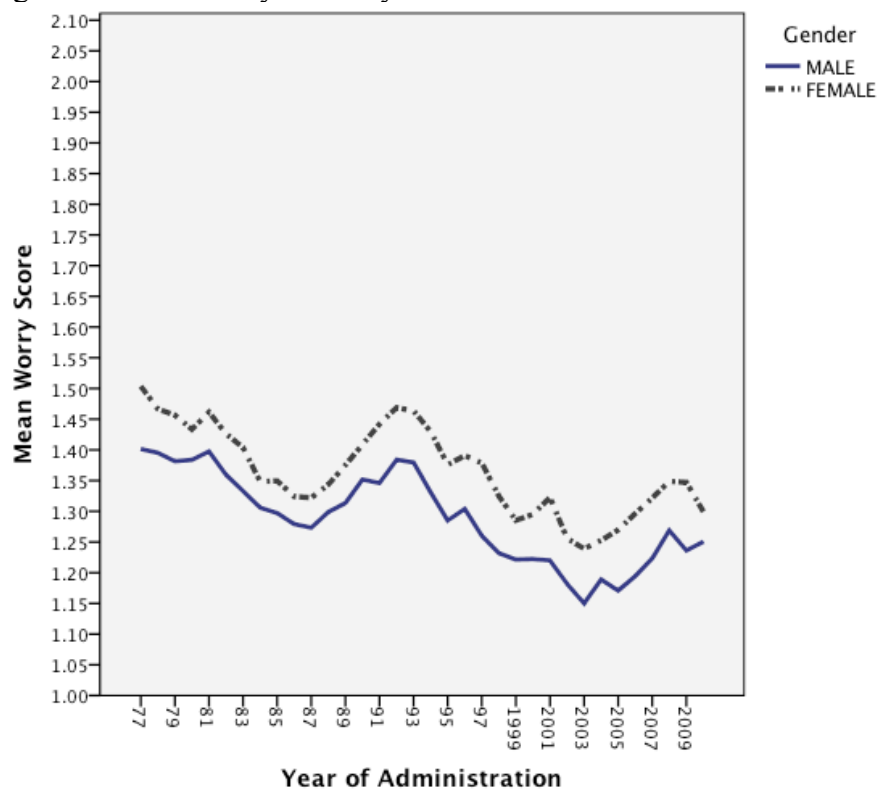


Figure 10: Mean Worry Score by Residential Settings

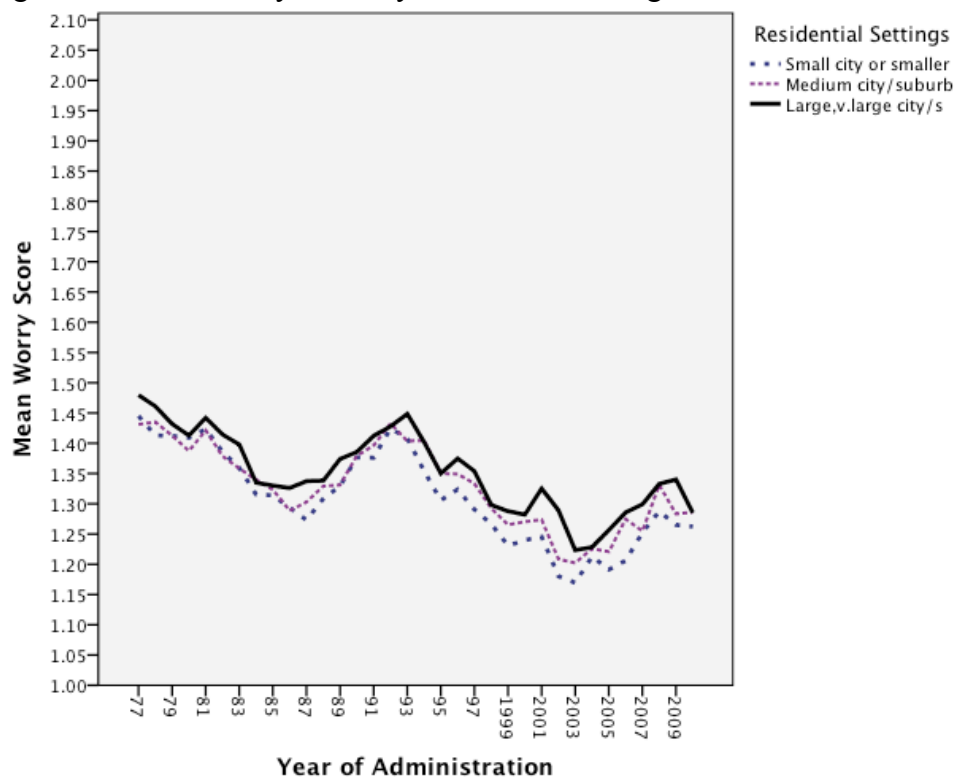


Figure 11: Mean Worry Score by Father's Education

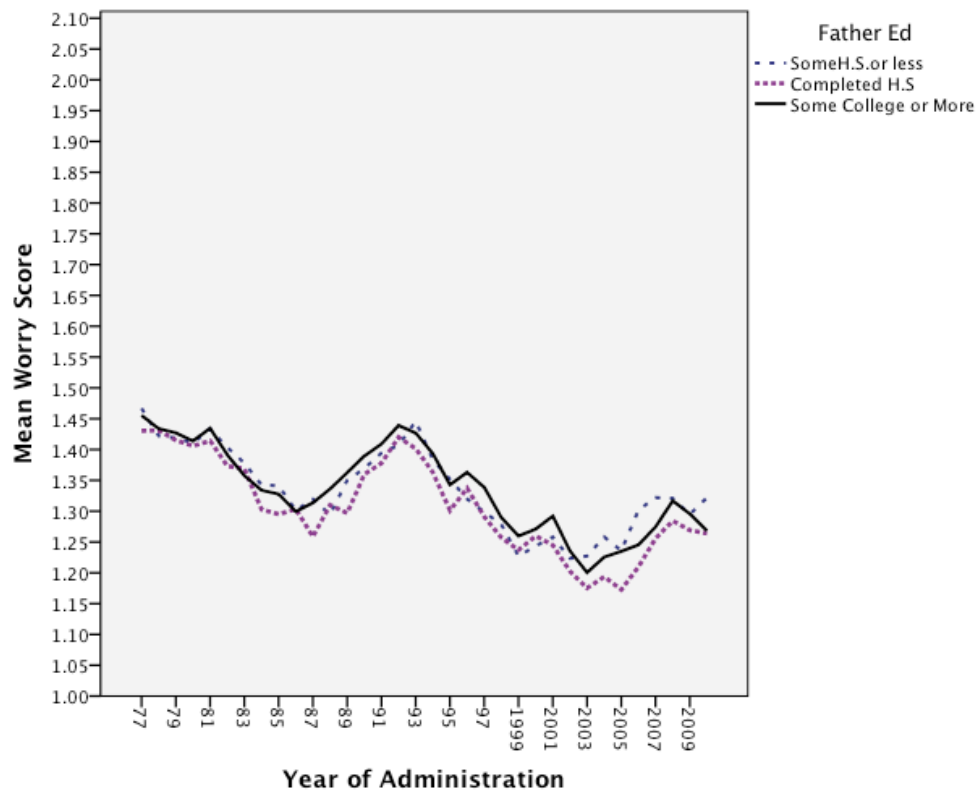


Figure 12: Mean Worry Score by Mother's Education

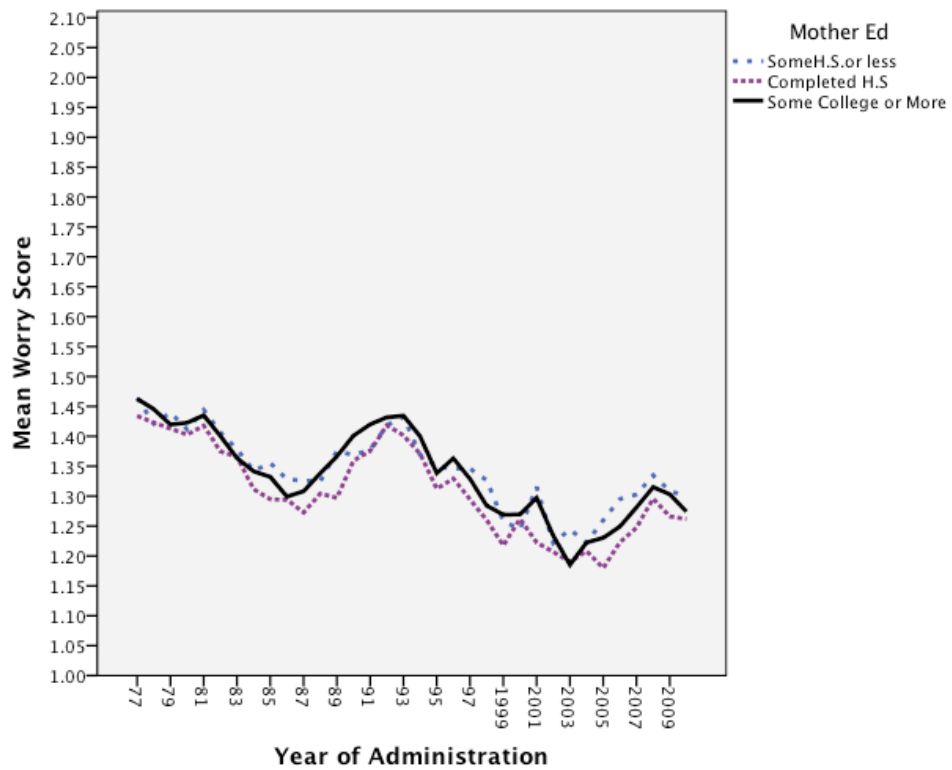




Figure 13: Mean Material Aspirations Score by Gender

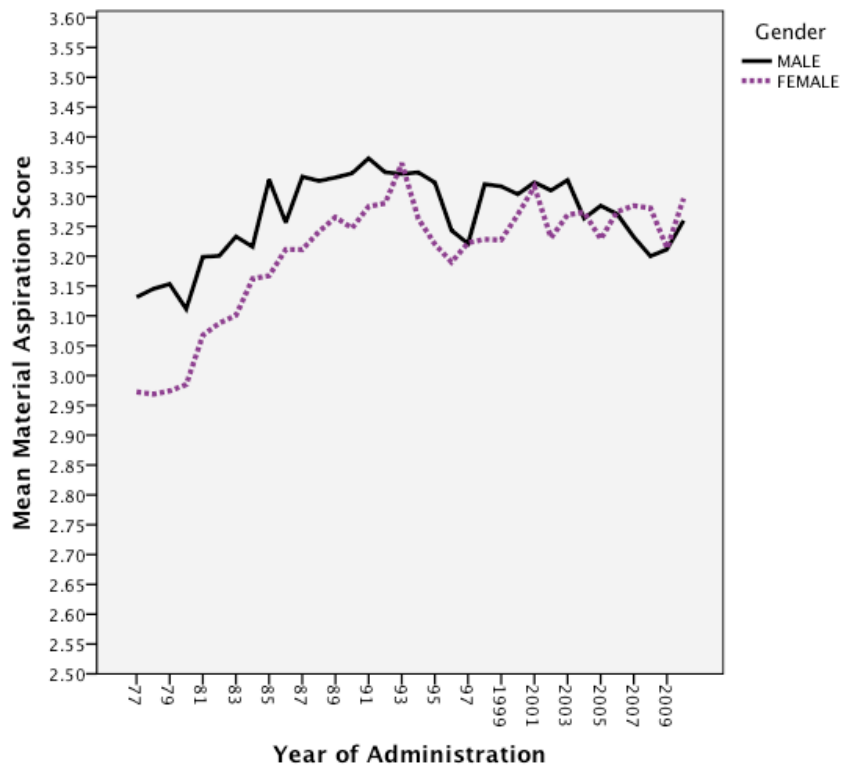


Figure 14: Mean Material Aspirations Score by Residential Settings

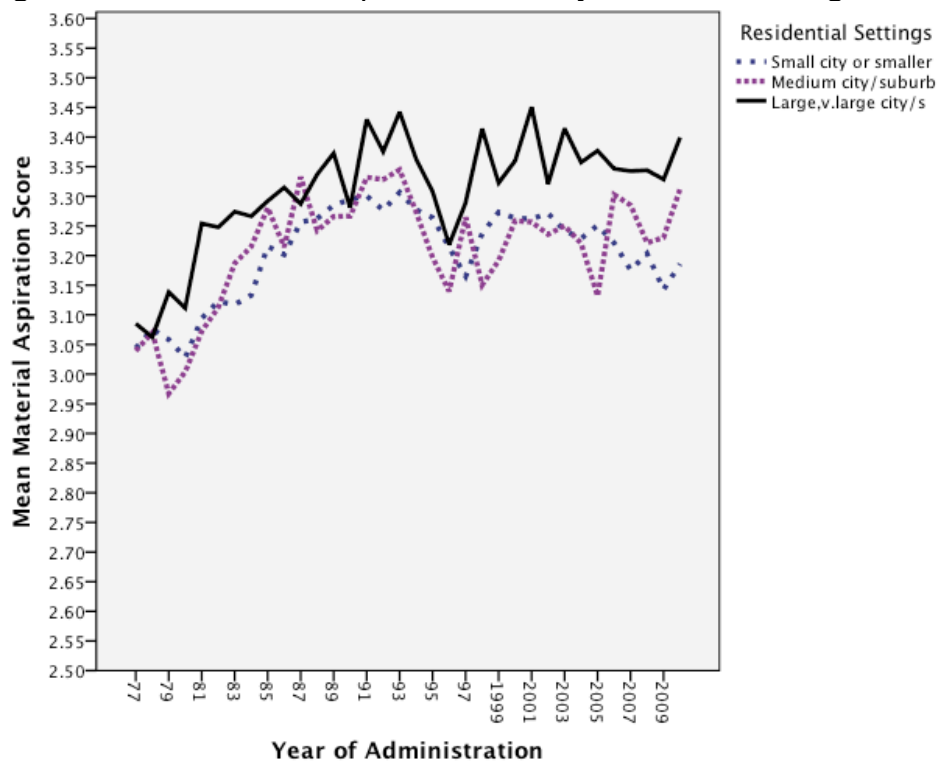


Figure 15: Mean Material Aspirations Score by Father's Education

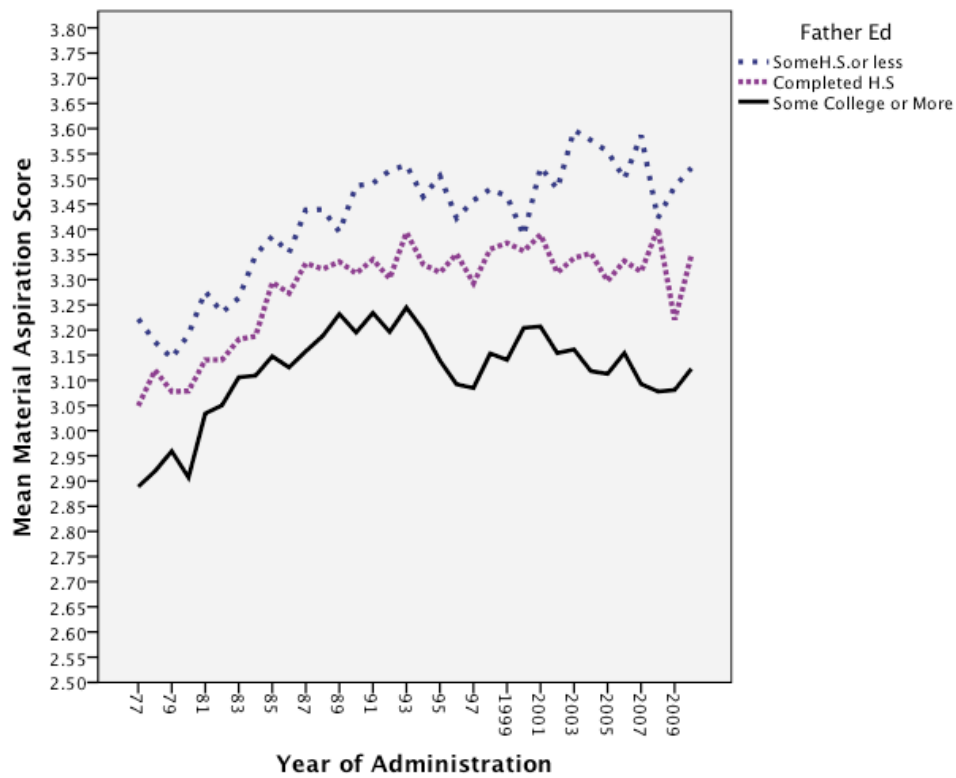


Figure 16: Mean Material Aspirations Score by Mother's Education

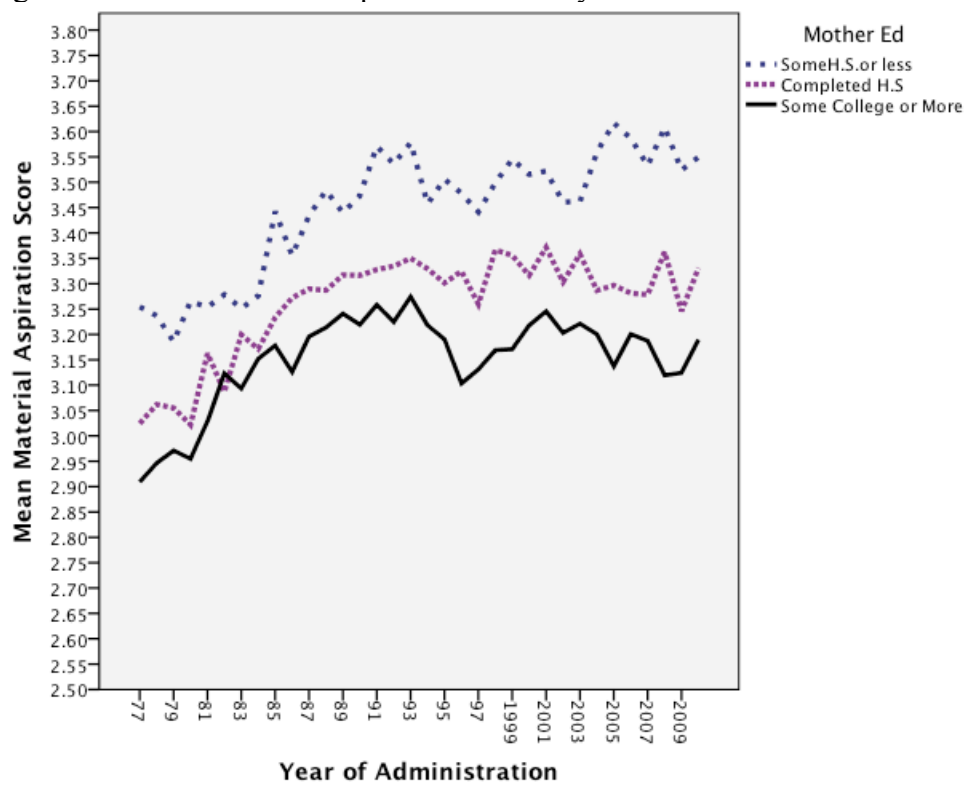


Figure 17: Mean Plans Score by Gender

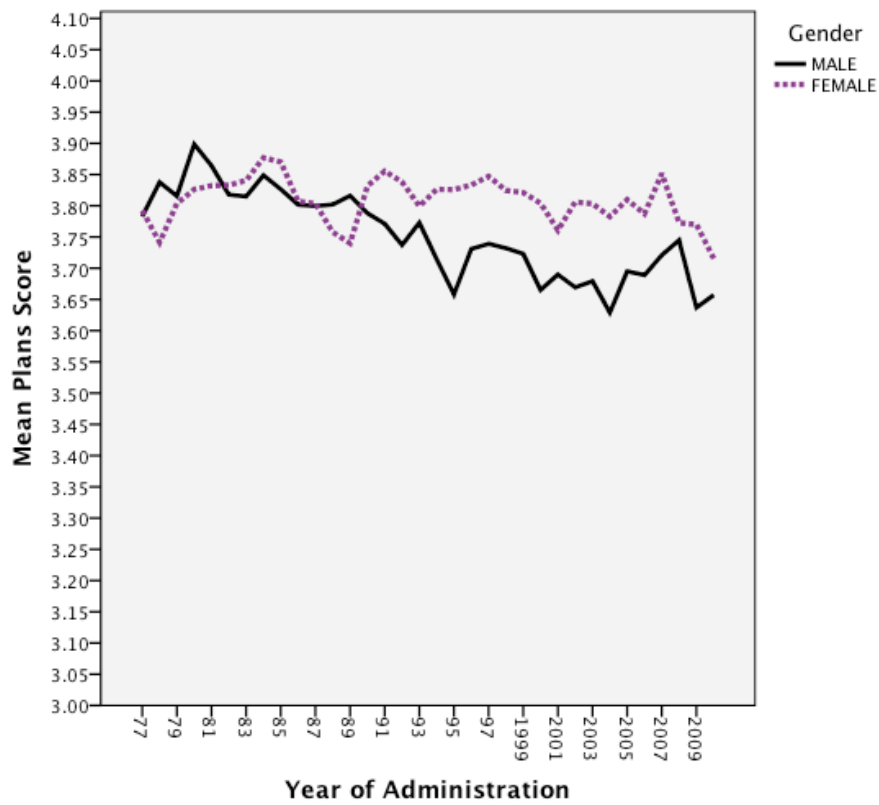


Figure 18: Mean Plans Score by Residential Settings

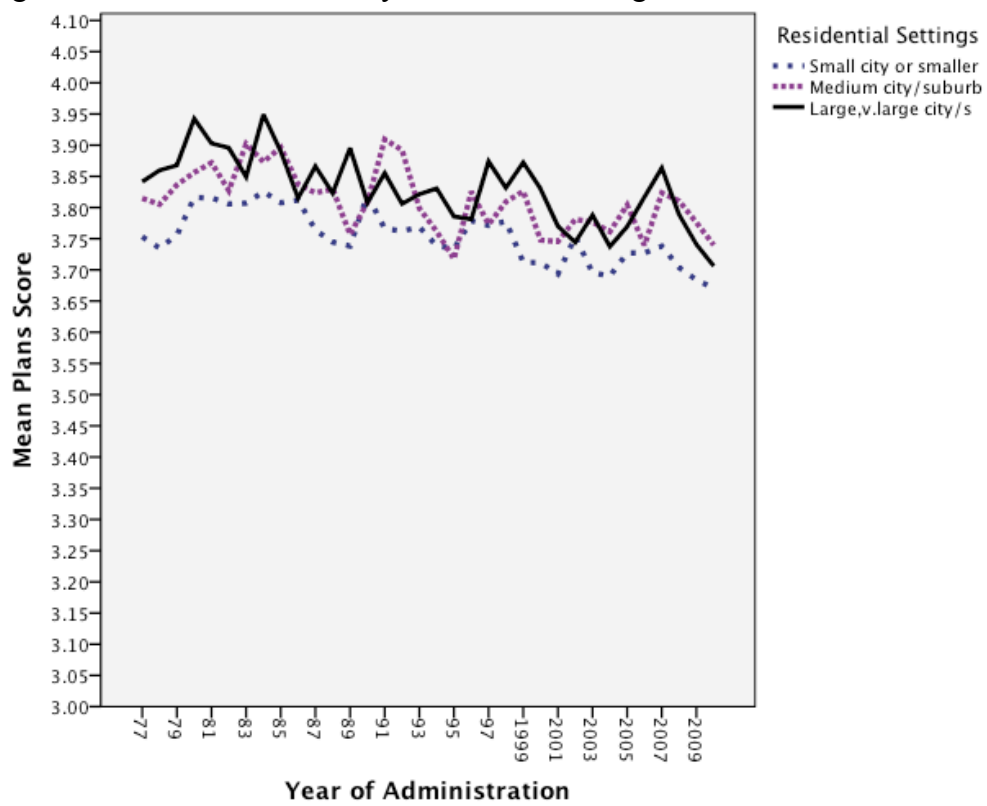


Figure 19: Mean Plans score by Father's Education Level

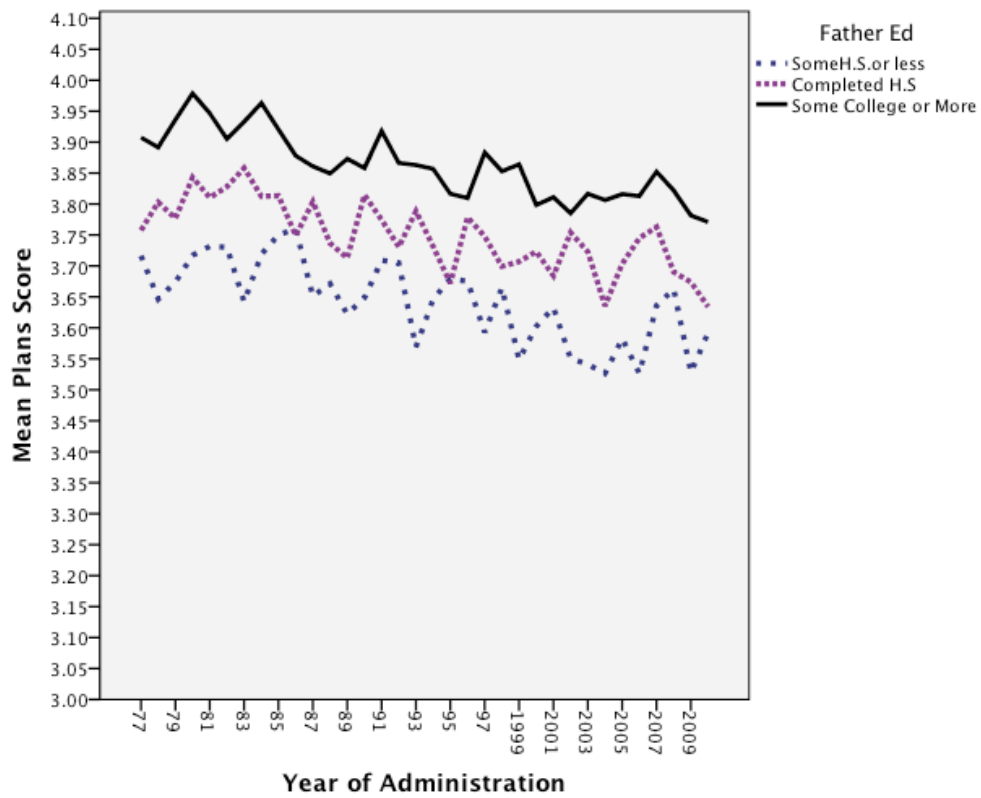
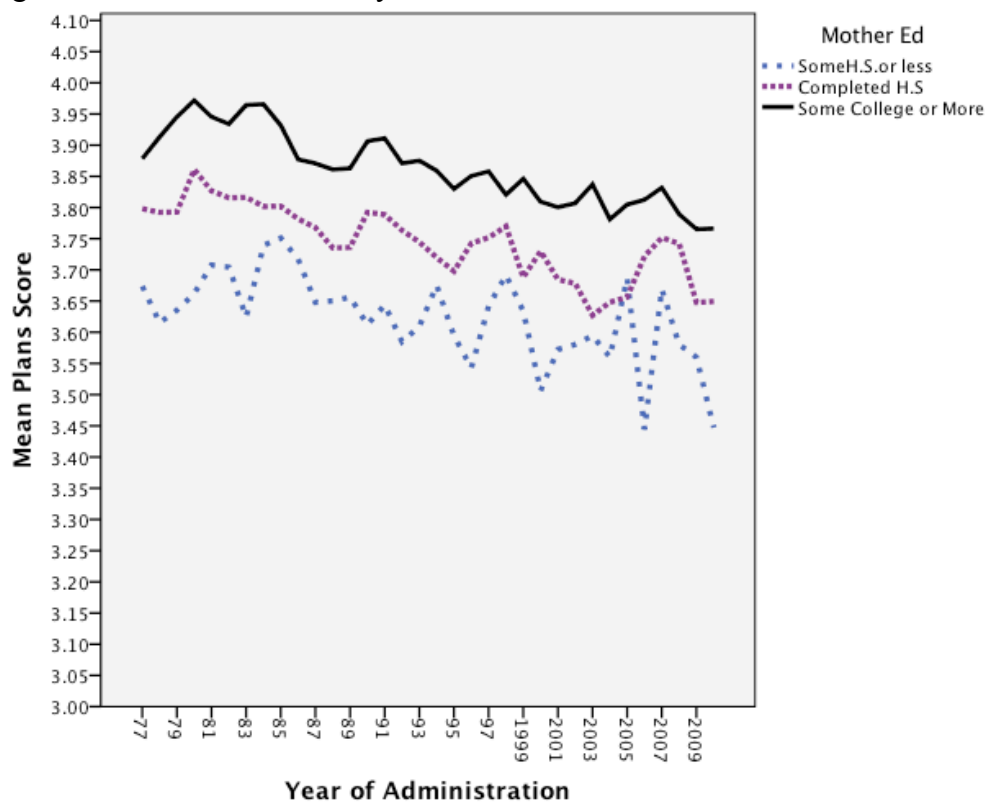


Figure 20: Mean Plans score by Mother's Education Level



## APPENDIX

### Survey Questions from Monitoring the Future Dataset

#### **Outlook of the Nation**

During the data analysis the responses will be recoded where the least worry (most hopeful) answer has the highest score of 4.

Of all the problems facing the nation today, how often do you worry about each of the following?

A: Chance of nuclear war

1="Never" 2="Seldom" 3="Sometimes" 4="Often"

Of all the problems facing the nation today, how often do you worry about each of the following?

B: Population growth

1="Never" 2="Seldom" 3="Sometimes" 4="Often"

Of all the problems facing the nation today, how often do you worry about each of the following?

C: Crime and violence

1="Never" 2="Seldom" 3="Sometimes" 4="Often"

Of all the problems facing the nation today, how often do you worry about each of the following?

D: Pollution

1="Never" 2="Seldom" 3="Sometimes" 4="Often"

Of all the problems facing the nation today, how often do you worry about each of the following?

E: Energy shortages

1="Never" 2="Seldom" 3="Sometimes" 4="Often"

Of all the problems facing the nation today, how often do you worry about each of the following?

F: Race relations

1="Never" 2="Seldom" 3="Sometimes" 4="Often"

Of all the problems facing the nation today, how often do you worry about each of the following?

G: Hunger and poverty

1="Never" 2="Seldom" 3="Sometimes" 4="Often"

Of all the problems facing the nation today, how often do you worry about each of the following?

H: Using open land for housing or industry

1="Never" 2="Seldom" 3="Sometimes" 4="Often"

Of all the problems facing the nation today, how often do you worry about each of the following?

I: Urban decay

1="Never" 2="Seldom" 3="Sometimes" 4="Often"

Of all the problems facing the nation today, how often do you worry about each of the following?

J: Economic problems

1="Never" 2="Seldom" 3="Sometimes" 4="Often"

Of all the problems facing the nation today, how often do you worry about each of the following?

K: Drug abuse

1="Never" 2="Seldom" 3="Sometimes" 4="Often"

### **Material Goals**

When you are older, do you expect to own more possessions than your parents do now, or about the same, or less? I expect to own...?

1="Much less than my parents" 2="Somewhat less than my parents" 3="About as much as my parents" 4="Somewhat more than my parents" 5="Much more than my parents"

Compared with your parents, what is the smallest amount that you could be content or satisfied to own? The least I could be content to own is...?

1="Much less than my parents" 2="Somewhat less than my parents" 3="About as much as my parents" 4="Somewhat more than my parents" 5="Much more than my parents"

### **Plans for the future**

During the data analysis the responses will be recoded where the most positive answer has the highest score of 5.

Do you agree or disagree with each of the following?

Planning only makes a person unhappy since plans hardly ever work out anyway

1="Disagree" 2="Mostly Disagree" 3="Neither" 4="Mostly Agree" 5="Agree"  
(REVERSE CODING)

Do you agree or disagree with each of the following?

People who accept their condition in life are happier than those who try to change things

1="Disagree" 2="Mostly Disagree" 3="Neither" 4="Mostly Agree" 5="Agree"  
(REVERSE)

Do you agree or disagree with each of the following?

When I make plans, I am almost certain that I can make them work  
1="Disagree" 2="Mostly Disagree" 3="Neither" 4="Mostly Agree" 5="Agree"

Do you agree or disagree with each of the following?  
Planning ahead makes things turn out better  
1="Disagree" 2="Mostly Disagree" 3="Neither" 4="Mostly Agree" 5="Agree"

Do you agree or disagree with each of the following?  
I feel hesitant about taking a full-time job and becoming part of the "adult" world  
1="Disagree" 2="Mostly Disagree" 3="Neither" 4="Mostly Agree" 5="Agree"  
(REVERSE)

### **Demographic variables**

What is your sex?  
1="Male" 2="Female"

Where did you grow up mostly?  
1="On a farm" 2="In the country" 3="In a small city or town (under 50,000 people)"  
4="In a medium-sized city (50,000- 100,000)" 5="In a suburb of a medium-sized city"  
6="In a large city (100,000-500,000)" 7="In a suburb of a large city" 8="In a very  
large city (over 500,000)" 9="In a suburb of a very large city" 0="Can't say; mixed;  
and nonresponse"

What is the highest level of schooling your father completed?  
1="Completed grade school or less" 2="Some high school" 3="Completed high  
school" 4="Some college" 5="Completed college" 6="Graduate or professional school  
after college" 7="Don't know, or does not apply"

What is the highest level of schooling your mother completed?  
1="Completed grade school or less" 2="Some high school" 3="Completed high  
school" 4="Some college" 5="Completed college" 6="Graduate or professional school  
after college" 7="Don't know, or does not apply"

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